

## **Optimized Disk Storage Defragmentation With Swapping Capabilities**

### **Abstract of the Disclosure**

File allocations on a disk are defragmented. Determinations are made concerning pages to be swapped among various allocations made by an operating system (OS). Determined pages are swapped by performing a step from a group of steps consisting of: a) manipulating data structures so as to indicate swapping of pages without actually swapping data between physical locations on a medium; and b) moving data on a medium where OS visible data is read and written. An OS file system mapping is updated to reflect the swapped pages; and program code for logging indications of the swapped pages so that an image of the OS visible data prior to the swapping can be reconstructed, without requiring that each read operation and each write operation be written to a history log.